

ABSTRACT OF THE DISCLOSURE

Suspended single crystal silicon (SCS) beams coated with metal form transmission lines that are used in MEMs type microactuated phase shifters and switches. The characteristic impedance of any section of the transmission lines is a function of the beam spacing in that section. Microactuators, such as comb-drive actuators, are connected to the beams to vary this spacing in a controllable manner. A continuous phase shifter is formed that consists of two tunable capacitance sections connected by a matching section that reduces reflections and improves compliance of the beams to reduce the energy required to move the beams.

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